

## The Winter Revival of Insect Life in the Arid Region at Koko Head, Oahu

BY O. H. SWEZEY

(Presented at the meeting of March 1, 1934)

In the arid region at Koko Head, for the greater part of the year, there is a scarcity of vegetation to attract insects, or upon which they could thrive. But after a few winter rains a considerable growth of various grasses and other weeds occurs on which the insect populations quickly increase to a great abundance. No doubt this is an annual occurrence, depending on the time when the rains occur. This season my attention was called to the situation when on February 4th, 1934, the full-grown larvae of *Celerio lineata* (Fab.) were observed crawling on the pavement of the Kalaniani'ole Highway which passes through the region. It was found that there were large patches of newly grown pigweed (*Portulaca oleracea*) scattered all over the region, and the caterpillars were numerous, having eaten off most of the weed and had become nearly full-grown. Subsequent visits were made to the place every few days during February to collect these caterpillars for feeding the recently imported toad (*Bufo marinus*) in observation cages at the Experiment Station, H.S.P.A.

Armyworms (*Cirphis unipuncta* [Haw.] ) were numerous on the grasses of the region. Collections of them were made for determining parasitism. Adults of *Hyposoter exiguae* (Vier.) were very abundant, and of the armyworms collected, 32 percent were parasitized by it. A few were parasitized by the tachinids *Archytas cirphis* Curran and *Frontina archippivora* Will. The adult flies were quite common as well as *Chaetogaedia monticola* (Bigot). Other caterpillars more or less prevalent were the following:

*Lycophotia margaritosa* (Haw.) They were 33 percent parasitized by the three tachinids above mentioned.

*Spodoptera mauritia* (Boisd.) 40 percent parasitized by *Frontina* and *Hyposoter*.

*Spodoptera exigua* (Hüb.) 36 percent parasitized by *Frontina*, *Chaetogaedia* and *Hyposoter*.

*Caradrina exanimis* Meyr. The stem borer in the grass *Panicum torridum*.

*Chloridea obsoleta* (Fab.). The caterpillars of the corn earworm were found on several kinds of weeds. One collection of them was found 60 percent parasitized by *Hyposoter*.

*Plusia chalcites* Esp. Caterpillars feeding on basil, cocklebur, and other weeds were parasitized from 36 to 76 percent by *Litomastix floridana* (Ashm.) and *Hyposoter*. *Echthromorpha fusculator* (Fab.) was also present and no doubt parasitized their pupae.

*Hymenia recurvalis* (Fab.). This moth was very abundant, its larvae having fed on the *Portulaca oleracea*. Its two usual parasites were also present: *Casinaria infesta* (Cress.) and *Chelonus blackburni* Cam.

*Platyptilia brachymorpha* Meyr. Larvae were found common on basil, which had made a fresh growth and was blooming, the larvae feeding on the inflorescence. They were 36 percent parasitized by *Pristomerus hawaiiensis* Perkins.

*Hypsmocoma tenella* Walsm. This little moth was common, but its larvae were never found.

*Hypsmocoma empedota* Meyr. Larval cases of this species of *Hypsmocoma* were common on the bark of the algaroba trees. From these, besides a few moths, three different parasites issued: *Secodella metallica* (Ashm.), *Lepideupelmus setiger* (Perkins) and *Hemiteles tenellus* (Say). The latter is normally a parasite in *Chrysopa* cocoons.

*Vanessa cardui* (Linn.). Thistle butterfly caterpillars were found feeding on Malva. They were 10 percent parasitized by *Frontina*.

*Thecla bazochii* God. The larvae of this lantana butterfly were found quite common on the inflorescence of basil. No parasites were reared from them.

Other insects not mentioned above were as follows:

*Paratrechina longicornis* (Lat.). The crazy ant was enormously abundant under stones, dried cowdung, etc., very populous nests.

*Ischiogonus pallidiceps* Perk. A parasite of cerambycid beetles.

*Urosigalphus bruchi* Crawf. A parasite of bruchid weevils which infest the pods of the algaroba tree.

*Orgillus* sp. A new black braconid. Reared from *Opogona aurisquamosa* (Butl.).

*Lysiphlebus testaceipes* Cress. A parasite of aphids.

*Habrolepis* sp. A parasite whose habits are not known.

*Anagyrus* sp. A mealybug parasite which appears to be new.

*Protaeniasius* sp. A recently introduced mealybug parasite from Mexico. It was reared from *Ferrisia virgata* (Ckll.) which was found at the roots of Portulaca. Probably the preceding parasite was breeding on this same mealybug.

*Toxomerus marginatus* (Say). Quite common flying about basil. Its larvae feed on aphids, some species of which was present.

*Chaetodacus cucurbitae* (Coq.) Was found infesting spiny cucumbers which were growing wild. Parasitized by *Opius fletcheri*.

*Sybra alternans* Wied. Adults captured and larvae found in dead stems of basil and cocklebur.

*Gonocephalum seriatum* (Boisd.) This tenebrionid beetle was in hundreds under stones, dried cowdung and trash.

*Ammophorus insularis* Boh. Another tenebrionid common in similar places.

*Tenodera augustipennis* Sauss. A few praying mantes were found.

*Chrysopa lanatus* Banks. A few of this lacewing fly.

*Nysius delectus* White. This and probably another species of lygaeid bug were very abundant on various weeds.

*Oronomiris hawaiiensis* Kirk. Abundant on grasses.

*Corizus hyalinus* (Fab.) Common on Malva. A proctotrypid (*Telenomus rhopalii* Perk.) was reared from its eggs, which were in clusters on the leaves.

*Zelus renardii* Kol. The assassin bug was prevalent on basil and other weeds.

*Reduviolus capsiformis* (Germ.). Another predacious bug was common in grasses.

*Nesosteles hospes* Kirk. On grasses.

*Oliarus discrepans* Giffard. The nymphs were found under a stone.

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### Insect Fauna of *Gossypium tomentosum*

BY O. H. SWEZEY

(Presented at the meeting of March 1, 1934)

This native species of cotton grows in dry lowland regions of Oahu and Molokai (according to Hillebrand, on all the islands). It is not known to have any species of endemic insect particularly attached to it. Dr. Perkins has recorded *Proterhinus deceptor* Perkins as occurring on it, but this beetle occurs on several other plants also. There is quite an area of *Gossypium tomentosum* among the algaroba trees of the flats west of Makapuu Head, Oahu. On February 4th, 1934, I made the effort to obtain some *Proterhinus deceptor* from these cotton plants, and succeeded in obtaining 5 specimens. While sweeping in the efforts to secure these, I obtained 2 specimens of *Rhyncogonus simplex* Perkins, the species which occurs on Molokai, and of which Mr. F. C. Hadden discovered a small colony on Koko Head, Oahu, January 11th, 1928.

Interested in learning more of this new colony of *Rhyncogonus*, I visited the region again on February 11th, when 53 specimens of the beetle were collected from the cotton plants. The beetles were found over an area of 100 yards or more in extent. Subsequent visits were made to the region to make observations on the seasonal occurrence, habits, etc., of *R. simplex*, and records kept of all kinds of insects which were taken on cotton at these times. The annotated list follows: